



INTRODUCING...



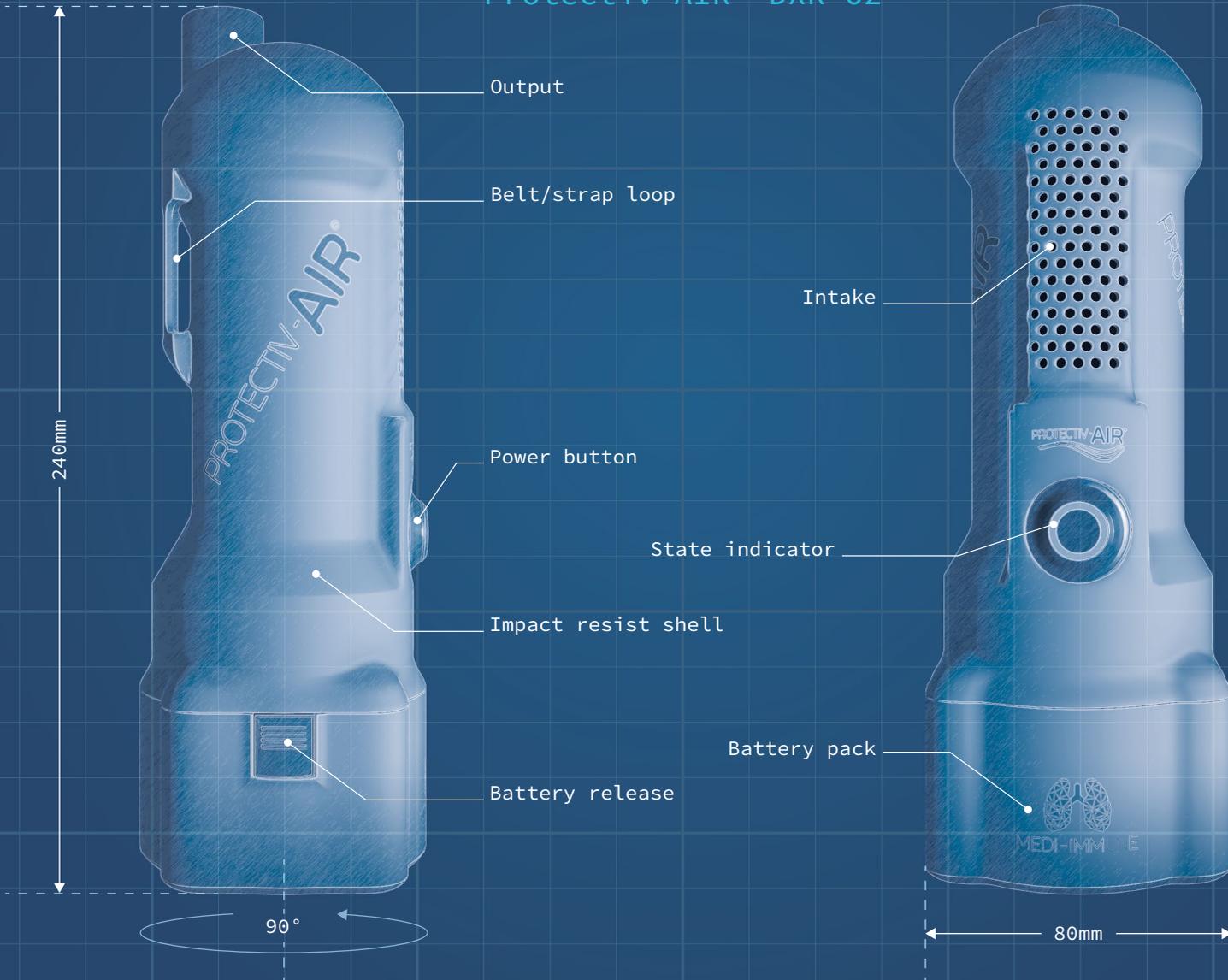
...a new paradigm in personal, real-time, biologically protected air.





MEDI-IMMUNE

Protectiv-AIR® DXR-02



A true breakthrough in immediate, **personal protection** against **all** airborne pathogens...

With its ability to render even newly mutated pathogens inert, the Protectiv-AIR® DXR-02 represents a paradigm shift in biological clean air technology.

The DXR-02 is a compact, wearable and filter-free breathing device that enables immediate protection for individuals and populations of all ages. **Utilising filterless technology makes the device supremely effective** where most filtration systems fail – at the seal between the mask and wearer's face.

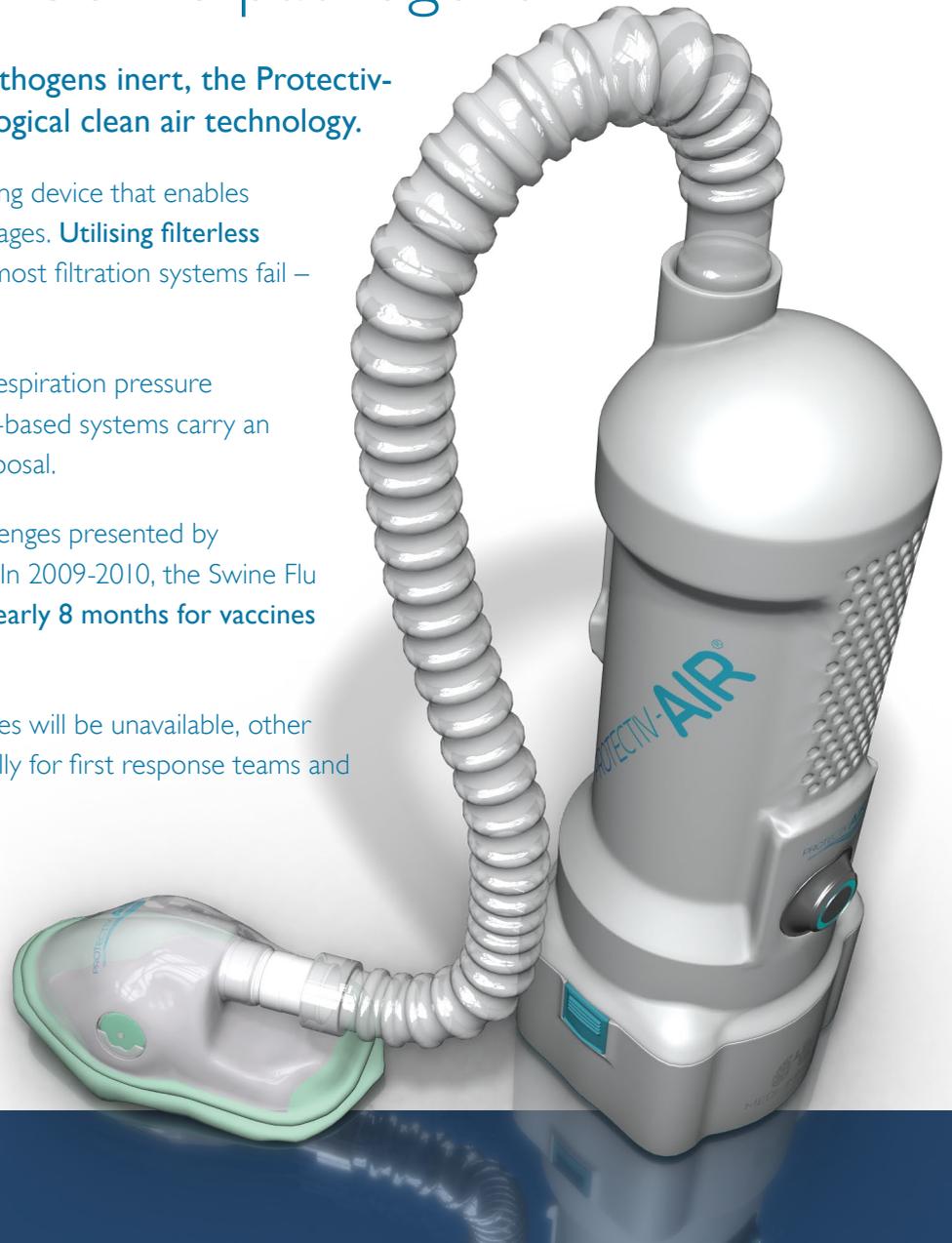
This is because filter-based technologies tend to increase respiration pressure which escalates the risk of leakage across the system. Filter-based systems carry an additional burden of blockage, replacement and careful disposal.

The Protectiv-AIR® system was designed to meet the challenges presented by pandemics, bioterrorism and localised airborne outbreaks. In 2009-2010, the Swine Flu outbreak killed nearly 20,000 people worldwide. **It took nearly 8 months for vaccines to be produced and become generally available.**

In the critical first few months of an outbreak, when vaccines will be unavailable, other means of protection from infection will be needed, especially for first response teams and healthcare professionals.

Our objective was to protect people from the immediate danger of any airborne pathogens and to initiate their body's own immune response for long-term protection.

Protectiv-Air® technology, has met this objective.



How it works – the science

Our technology deploys UVc to sterilize any airborne pathogens being inhaled by the wearer.

Our unique chamber design emits high-energy UVc photons. These interact with micro-organisms, damaging their nucleic acid (RNA or DNA) as they do – this effectively disables their ability to reproduce. **UVc is a proven, extremely effective germicidal process.**

The device has been engineered to deliver a high dose of UVc, despite its low power requirements. In tests, at normal breathing rates, **the device exhibited in excess of a log 10 reduction in viable Influenza (A) viral particles – i.e. less than 1 in 10,000,000,000 remains viable.**

The use of UVc (254nm wavelength) as a method for disabling micro-organisms, was discovered in the late 19th century. Around that time, Niels Finsen, a Danish physician, created a UVc emitting lamp, to successfully treat tuberculosis. This discovery earned him the 1903 Nobel Prize for Medicine and Physiology.

Our technology has been confirmed in tests at **Public Health England, Porton Down.**

Since then, many scientific and engineering papers have been published on the sensitivity of various micro-organisms to UVc and its germicidal effectiveness.

Using this widely published sensitivity data, we are confident that this technology applies to all airborne pathogens.



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PROTECTIV-AIR®



Ready for **any** scenario...

The design and engineering of the DXR-02 is incredibly versatile. The device can be adapted to suit any scenario from mission critical military deployment and localised high-risk medical outbreaks, to brightly coloured, child-friendly designs for low-risk, and precautionary scenarios.

The device utilises standard fittings to enable use of widely available standard masks and hose options. An optional charging station can charge multiple batteries simultaneously, ready for immediate, multi-device deployment.

Ready, willing and now able.

Medi-Immune Protectiv-Air® technology, has been confirmed in its efficacy – not only its ability to immediately neutralise any airborne pathogens but also providing subsequent long-term immunity from pathogens exposed to the process.

The technology can also provide protection to people with compromised immune systems either through illness or as a result of medical treatment or procedure.

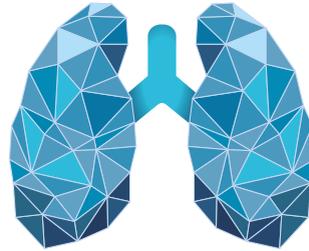
At Public Health England, Porton Down – test results exceeded expectations and an unexpected outcome is the subject of a new patent application.

BioNewsRound Award 2017

WINNER



Science, engineering and invention – the team behind...



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Director – James Love, is a chartered mechanical engineer, who graduated from Imperial College London. He is an innovative engineer, and problem solver, whose recent focus has been on medical device concept design and medical device regulatory compliance.

Director – John James has a long history of innovation and creative design and the development of software systems and applications for use in different sectors including pharmaceutical, defence, electronic and medical. His recent focus has been on the creation and application of UVc in devices, in the medical sector.

Director – John Maudsley is an immunologist with a BSc and PhD from University College London. He spent some years in immunology research at Warwick University, within the Virus Group. His focus over many years has been on the development of cancer vaccines.

Director – Tim Bretherick qualified as an accountant with MAB. For many years he has been running his own successful consulting business specialising in all aspects of Facilities Management. Tim came on board as an investor to support the development of a novel concept.

Consultant – John Willcocks' early career was in major IT companies and since 1982 he has run his own businesses, working within blue chip organisations, around the globe, delivering management development programmes. He is a skilled communicator at all levels.

Director – Robert Foley graduated from Essex University, with an MSc in pure and applied mathematics. He now lives in the United States, having moved there when working for GE. He built up his own computer service company, which he sold very successfully in 2007, remaining CEO until 2009. He is now a private investor.

Global commercial application – **significant human import...**

The Medi-Immune team have invested huge amounts of time, expertise and resources in the technology behind **Protectiv-AIR®**.

Perhaps more importantly, we believe our innovative technology, when fully realised – has the potential to save countless lives and avert a possible humanitarian catastrophe. This isn't hyperbole – a study of historical outbreaks, pandemics and the ever present threat of bioterrorism bear this out.

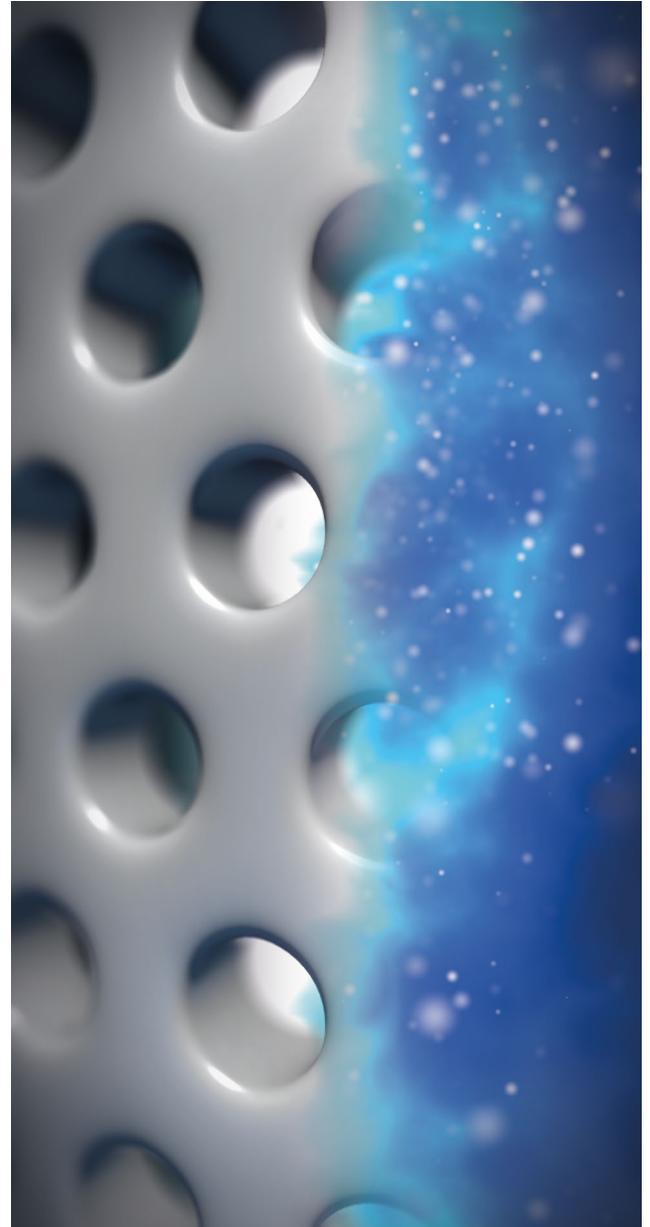
We are always **exploring opportunities** to work with **interested parties...**

We continue to iterate, innovate and develop our technology for several commercial applications, including real-time personal use and contained environments requiring clean and safe, biologically protected air.

Medi-Immune are always exploring opportunities to work with other parties to accelerate our technology for global commercial applications.

Interested in working with Medi-Immune? Gaining a greater understanding of – and benefiting from – our technologies? If so, we invite you to get in touch with: **Tim Bretherick** – 07939 446 552 • timbretherick@medi-immune.com

We **thank you** for your interest – The Medi-Immune Team.



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PROTECTIV-AIR®

DXR-02



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